MIT's Oldest and Largest Newspaper

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Volume 135, Number 16



WEATHER, p. 3

FRI: 69°F | 58°F Partly cloudy

SAT: 73°F | 53°F Mostly sunny

SUN: 67°F | 53°F Mostly sunny

Friday, June 5, 2015

State of New Jersey drops Tidbit inquiry

Subpoenaed undergrad had been suspected of hijacking computers

By William Navarre NEWS EDITOR

The state of New Jersey has agreed to drop its investigation into Tidbit after previously issuing a subpoena to Jeremy Rubin '16 requiring that he turn over the program's source code, log files, and other information.

Rubin, whose team designed Tidbit at a hackathon in Nov. 2013, wrote on his blog that he is "relieved," but that he's "sad that [his] 'showdown' with the state of New Jersey went so far in the first place."

Tidbit was intended to eventually allow client websites to use their visitors' unused processing power to mine bitcoin, according to the Electronic Frontier Founda-

MIT Summer Session begins

The deadline to initiate Fall

pre-registration and to indi-

cate CI-H and CI-HW prefer-

ences is Monday, June 15. The

CI-H and CI-HW lottery closes

after that date, and anyone initi-

ating pre-registration after that

LaVerde's Market is open from

7 a.m. to 11 p.m. during the

Send news information and

tips to news@tech.mit.edu.

date will face a \$50 late fee.

IN SHORT

Monday, June 8.

summer.

tion, whose attorney represented Rubin in court. The revenue earned through bitcoin mining would offset the need for advertisements.

New Jersey was worried about the effects the tool could have on web users in the state. "[Tidbit's] own description of its services strongly suggests that [it is], in fact, designed to hijack consumer's computers," the state wrote in a brief responding to Rubin's motion challenging the subpoena.

The Superior Court of New Jersey ultimately ruled in favor of the state, citing the "broad scope" of the relevant statute.

The court expressed reservation in its opinion, however: "The Court

Tidbit, Page 16



Chancellor Cynthia Barnhart PhD '88 and Professor Anantha P. Chandrakasan, the faculty representative for the Department of Electrical Engineering and Computer Science, invest a doctoral degree hood during Thursday afternoon's hooding ceremony in the Johnson Athletics Center. Michael J. Massimino PhD '92, a former NASA astronaut, gave the address to the candidates.

Faculty urge divestment in open letter to Reif

Language was drafted prior to Vice President Zuber's call for faculty action

By Katherine Nazemi

NEWS EDITOR

A group of 79 faculty members has signed an open letter to President L. Rafael Reif expressing their support for divesting MIT's endowment from fossil fuel companies. The letter comes as the Climate Change Conversation (CCC) prepares to release its report to the community.

Simultaneously, yet apparently independently, 21 MIT student groups have signed their own open

letter to President Reif advocating for "bold and immediate action" on climate change. The student letter includes divestment as one of several recommendations, alongside launching an "MIT Manhattan Project for climate science," and im-

INSIDE THE ISSUE

Read the letters to President Reif on page 5 and see who signed on.

proving sustainability on campus. The faculty letter, too, notes that divestment should be taken as part of a broader set of actions; however, it does not discuss what those potential actions might be.

Professor Ian Condry, a signatory to the letter, wrote in an email to The Tech that "Divestment is the single, clearest, most powerful statement we can make that MIT takes climate change seriously," and added that "divestment has to be part of a broader action plan" which includes "reduced emissions, reduced reliance on carbon fuels, and a carbon tax."

"I've had several conversations with President Reif and other upper administration officials, and they have emphasized the need to do something 'action-oriented," Condry wrote. "I couldn't agree more. Divestment would help set us on the path to additional action."

The letter specifically calls for the divestment of MIT's endowment from fossil fuel companies; it does not explicitly discuss the role of oil companies or the fossil fuel

Divestment, Page 17

UROP minimum wage to increase

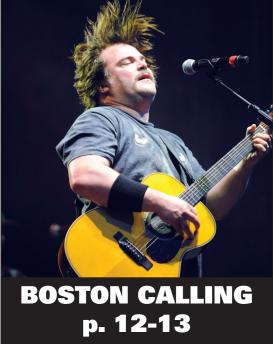
The minimum hourly wage for MIT's Undergraduate Research Opportunities Program is slated to increase to \$11.50 over the next two years, according to an email from Julie B. Norman, Senior Associate Dean for Undergraduate Education

The hourly pay will increase twice to reach the Institute's goal. The first increase will be on June 1, 2016, and will bring the minimum wage up to \$11. The second increase will occur one year later.

The change is in line with the Undergraduate Association's agenda. UA President Matthew J. Davis '16 stated at a Council meeting last month that the UA will push for increasing student wages and advocate for increased summer UROP pay, according to a UA email. The aim is to reduce stress and financial burdens for students, some of whom "spend inordinate amounts of time outside of the classroom to afford their education."

The current minimum wage for UROP students is \$10.00 per hour, and has increased by only \$1.25

-Ray Wang



DANIEL MIRNY—THE TECH

Jack Black, from Tenacious D, rocks out during the Spring Boston Calling Music Festival.

OBITUARY

Judith Layzer, professor in the **Department of Urban Studies** and Planning, dies at 53

Bv Peter Dizikes

Judith Layzer, a professor at MIT and an accomplished scholar who produced influential work on environmental policy and politics, died Thursday after an extended illness. She was 53.

Layzer had been on the faculty of MIT's Department of Urban Studies and Planning (DUSP) since 2003, and had served as associate head of the department since 2014.

Layzer's research explored the politics of environmental policies, and the role of science in shaping public debate

on these matters. Scientific evience, as she detailed in many of her writings, provides a powerful foundation for environmental advocacy - but policies do not always simply follow from that science, she noted, since disputes over the environment are often contested between groups with differing or opposing values. In this context, Layzer concluded, the quality of environmental advocacy matters greatly.

For instance, those combating climate change - a position Layzer supported publicly - needed a "politically compel-

Layzer, Page 20

SOCIAL JUSTICE

How can we center conversations about diversity on campus?

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WEATHER

Will you survive commencement?

WEATHER, p. 3

SUDOKU

You forgot your pen, didn't you? FUN,

PITCH PERFECT 2

The hit movie's seguel is far from perfect.

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POVERTY IN THIS COUNTRY

Let's look at what's been tried abroad.

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2 THE TECH FRIDAY, JUNE 5, 2015



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and build a better future.

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- Tribology

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FRIDAY, JUNE 5, 2015 THE TECH 3

WEATHER

Commencement to be partly cloudy

By Vince Agard STAFF METEOROLOGIST

The month of June is off to its coldest start in Boston's recorded history. Until this week, there had never (since records were first kept in 1872) been a day in June during which the temperature in Boston didn't reach at least 50°F. However, the high temperatures on both Monday and Tuesday, June 1 and 2, were only 49°F. The unseasonable cold began to abate on Wednesday as sunshine returned, bringing temperatures into the mid-50s. This warming trend will continue through the weekend, as temperatures slowly make their way back

up to seasonable levels.

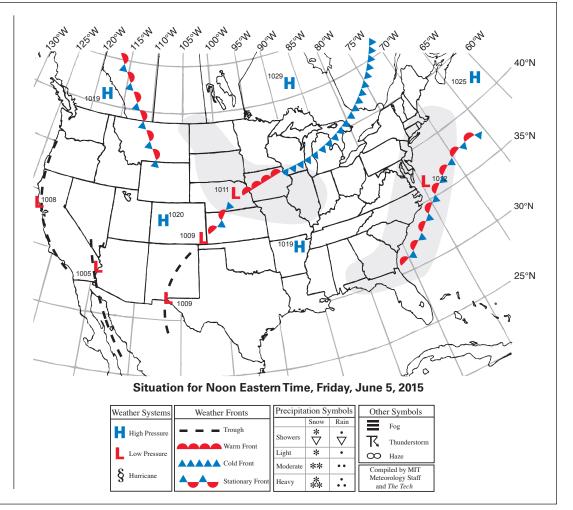
For this morning's commencement exercises in Killian Court, expect temperatures to start off in the mid-50s °F (around 12°C), with a mix of sun and clouds as the temperature rises to the upper 60s (around 20°C) by noon. Depending on its exact orientation, an afternoon breeze could knock temperatures back down a few degrees (if the wind is off the water), or nudge them above the 70-degree mark. Overall, though, the weather should be enjoyable for graduates and audience alike, as it won't be too hot or too windy, and — most importantly — rain is not in the forecast.

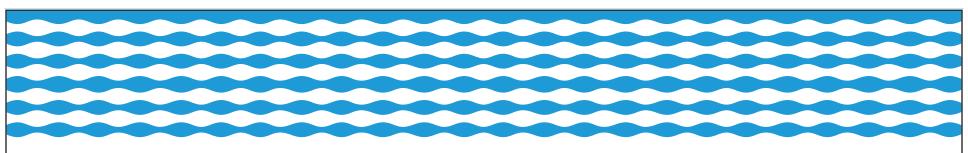
Extended Forecast

Today: Partly cloudy, high 69°F (21°C). Winds SE at 5-10 mph. Tonight: A chance of showers, low 58°F (14°C). Winds S at 5-10 mph becoming W.

Tomorrow: Mostly sunny, high 73°F (23°C). Winds N at 5-10 mph. Sunday: Mostly sunny. Highs in the upper 60s (20°C), becoming cooler in the afternoon.

Monday: A chance of showers. Highs in the lower 70s °F (22°C).





CONGRATULATIONS!

The Susquehanna International Group of Companies (SIG) would like to congratulate the following students on their upcoming graduation. We acknowledge the hard work and commitment they have put forth to arrive at this significant academic milestone and welcome them as full-time members of the SIG team:

SAM TRABUCCO

Receiving a Bachelor's in EECS and Mathematics and will be joining SIG as an Assistant Trader.

PAUL YUAN

Receiving a Bachelor's in Mathematics with Computer Science and will be joining SIG as an Assistant Trader.

ADISA KRUAYATIDEE

Receiving a Bachelor's in Computer Science and Mathematics and will be joining SIG as an Assistant Trader.

SIG also welcomes the students joining our 2015 Summer Internship Program:

MARTIN MA

CHARLIE ALEX-BARTON

KEVIN LI

KEVIN WEN

sig.com



Solution to Sudoku from page 8

1	6	7	4	2	8	5	9	3
5	9	8	6	7	3	4	2	1
4	3	2	5	9	1	8	6	7
8	2	4	3	1	6	7	5	9
7	5	6	9	4	2	3	1	8
3	1	9	7	8	5	6	4	2
	7	1	8	6	4	2	3	5
2	4	5	1	3	7	9	8	6
6	8	3	2	5	9	1	7	4

Solution to Techdoku

from page 8

1	5	4	2	3	6	
2	6	5	3	4	1	
<u>5</u> 3	3	2	6	1	4	
3	1	6	4	5	2	
4	2	1	5	6	3	
6	4	3	1	2	5	

Solution to Baby Techdoku 1 from page

Solution to Baby Techdoku 2

from page

2	3	1
3	1	2
1	2	3

Solution to Crossword from page 7





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Abroad, at home

What America can learn from the developing world in the fight against poverty

By Jacob London

SENIOR EDITOR

According to recent estimates, 1.65 million American households are now living in "extreme poverty" — trying to survive on less than \$2 per person per day — despite the national recovery from recession. The number of such households has doubled since 1996.

At the same time, efforts to fight extreme poverty in the developing world have yielded some success. Targeted educational, health, and financial interventions by researchers and philanthropic organizations have dramatically improved the lives of some of the world's poorest people.

Of course, the underlying causes and severity of poverty vary from nation to nation, and the characteristics of extreme poverty are not always the same across borders and cultures. But there are some key similarities — three in particular — that should compel Americans to consider adopting measures that have worked well abroad.

First, here in the U.S., as in much poorer nations, rates of attendance and graduation in lower-income public school districts have lagged, and the sub-standard quality of these schools has impaired achievement.

Second, the American poor are increasingly at risk for the kinds of communicable diseases, infections, and nutritional deficiencies that have plagued the developing world. Iron and iodine deficiencies, which have been shown to stunt educational attainment and earning potential, are increasing at alarming rates among the poor in the United States.

Third, like the poor in under-developed countries, America's poorest citizens lack adequate access to financial institutions. Even those who manage to maintain a bank account have great difficulty saving. American savings rates are notoriously low, and the poor in America are often unable to save because of psychological or behavior-

al reasons, not just because their incomes are so small.

In developing countries, progress has been made on all three of these fronts — education, health, and access to financial institutions.

Despite the success of such measures abroad, none of them has yet been widely adopted in the U.S.

Educators in poverty-stricken nations have demonstrated that separating students into different classrooms based on their prior academic achievement — a technique known as "tracking" — has led to improved educational attainment for students of all levels of prior achievement. Moreover, studies have shown that in developing nations, allocating a greater proportion of funding to subsidizing school lunches and supplies substantially boosts student attendance and performance, and that merit-based pay for teachers — paying teachers based on student performance — has also proven effective.

On the health front, free distribution of iodine and iron supplements in poor nations has led to weight gain, improved school attendance and performance, and increased earnings.

Efforts to fight poverty in developing countries have also included setting up bank accounts and financial services on mobile phones for the poor, and "commitment savings products" — financial contracts that prevent myopic spending and force consumers to save. Philanthropic organizations have observed that these efforts can dramatically increase savings rates. Another success has been the microfinance movement, which has shown great promise in developing countries by providing small business loans to those

without access to conventional financial

Despite the success of such measures abroad, none of them has yet been widely adopted in the U.S. "Tracking" in schools has been debated here since the 1990s, but it has never been implemented on a broad scale. If it can be successfully adopted in the poorest school districts, it could improve educational attainment apart from the additional benefits that could be derived from hiring more teachers and building new schools.

The same goes for subsidized school lunches, merit pay for teachers, free distribution of iodine and nutritional supplements, and offers to set up bank accounts and mobile financial services, all of which could prove less costly and more effective than conventional forms of American social assistance.

In the limited instances when we have tried measures at home that have worked well abroad, there have been some encouraging results. In 2008, Muhammad Yunus, the founder of a prominent global microcredit firm, launched Grameen America, a New York-based venture seeking to prove that microcredit could work for the poor in America just as it has worked in developing nations. Most of the firm's borrowers take out loans no greater than \$1,500. Though it's still too early to know if the venture will succeed, indicators thus far are positive. In 2012, the firm was valued at over \$35 million, with a 99 percent repayment rate. By 2014, its roster of borrowers had grown to more than 43,000 entrepreneurs.

There is no guarantee that everything that has worked well in the developing world will work here. Some of these measures would face severe political obstacles, regardless of their prospects for success. But they should be given every consideration by American policymakers, think tanks, and philanthropic organizations. The world is getting better at fighting poverty. The U.S. can too.



OPINION POLICY

Editorials are the official opinion of *The Tech*. They are written by the Editorial Board, which consists of Chairman Will Conway, Editor in Chief Leon Lin, Managing Editor Anthony Yu, Executive Editor Tushar Kamath, and Opinion Editor Claire Lazar.

Dissents are the signed opinions of editorial board members choosing to publish their disagreement with the editorial.

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Friday, June 5, 2015

OPEN LETTERS TO PRESIDENT L. RAFAEL REIF

Take bold steps to prevent climate change

Dear President Reif and the Executive Committee,

We, the undersigned MIT students, write to urge MIT to take bold and immediate action against the threats of climate change.

We inherit a warming world. In our lifetimes, we may see more than four degrees Celsius of global warming; our children, more than six. At this rate, by the time our children graduate from college, MIT will face the threat of up to seven feet of flooding from the next Hurricane Sandy-strength storm surge. By the time our children retire, their world could be one of forced migration on the scale of nations, of colossal species extinction, and of prospects of runaway climatic feedback cycles posing an existential threat to civilized society. This is a threat to our futures and to global and intergenerational justice. Around the world, climate change preferentially afflicts those who have contributed the least — the young, poor, and disenfranchised. And with the future on our minds, hope in our hearts, and passions on our sleeves, we MIT students face a world where the pursuit of our ambitions is jeopardized.

We represent a large cross-section of the MIT undergraduate and graduate student population. Many of us are already involved in climate, energy, and sustainability efforts across campus. We are diverse in our academic majors, personal interests, political views, religious beliefs, and cultural backgrounds, yet when it comes to climate change, we are united.

We stand shoulder-to-shoulder in calling on MIT to summon its moral courage and thought leadership so as to rise to meet this singular crisis and opportunity of our time.

MIT instills in us "the ability and passion to work wisely, creatively, and effectively for the betterment of humankind." This means avoiding false dichotomies and instead asking "what all can we do?" On campus and around the world, let us take courageous climate actions, which can include but not be limited to:

Reinventing climate change education so that it is on the minds of all MIT graduates and on the agendas of decision makers everywhere.

Launching an MIT Manhattan Project for climate science and renewable energy research, development, and deployment.

Divesting MIT's endowment from fossil fuel companies.

Reinvesting in campus energy efficiency, which is a high-yield, low-risk investment.

Transforming our campus into a living laboratory for sustainability, efficiency, and energy, with emissions reductions consistent with holding global warming below 2 degrees Celsius.

Engaging with our public and politicians, demanding meaningful leadership and legislation, starting with an effective price on carbon.

We applaud the initial steps your administration has taken by launching the MIT Climate Change Conversation. We understand that it was calls for climate action from MIT students, many of whom are signatories to this letter, that in large part precipitated this Conversation.

It is therefore with a sense of duty, pride, and expectation that we urge you to build quickly on this positive progress by making MIT a global climate action leader. Students and student groups can cultivate local changes, but MIT can move a nation, rewriting the course of climate change.

Please make climate change action the defining legacy of your presidency and the generational mission of this Institute.

Albert Einstein said, "Those who have the privilege to know have the duty to act." Here at MIT, we know that climate change will bring suffering and injustice, and we know what we must do to stop it. Now it is our duty to act boldly, courageously, and without delay.

Yours appreciatively,

The undersigned students and student groups of MIT.

AID-MIT

Art of Living at MIT Edgerton House Association

Food & Agriculture Club

Fossil Free MIT

MIT Beekeepers Club

MIT Clean Energy Prize

MIT Dept. of Urban Studies & Planning Students of Color Committee

MIT Energy For Human Development

MIT Sloan Energy Club MIT Sustainability Club

MIT Water Club

Next Sustain

Secular Society of MIT

Sustainability Subcommittee of the Graduate Student Council

UA Committee on Sustainability

Vegan & Vegetarian Society Westgate Executive Committee

Divestment is a signal and a moral obligation

Dear President Reif and the Executive Committee,

We, the undersigned faculty of MIT, write in support of divesting MIT's endowment from fossil fuel companies. The unique position of the Institute provides us with both the means and the obligation to take bold action against the harmful effects of climate change.

One of the clearest and most powerful ways to demonstrate our seriousness about tackling catastrophic climate change is to divest from fossil fuels, as part of a multi-faceted climate action plan.

We support divestment - as one of the Institute's actions - for reasons including the following:

Divestment recognizes the scientific necessity of drastically and rapidly reducing greenhouse gas emissions to avoid global warming beyond the 2 degree Celsius limit agreed to by virtually every country on Earth. At least two-thirds of all existing global fossil fuel reserves must never be burned, yet every year the fossil fuel industry spends hundreds of billions of dollars looking for more.

Our integrity is at stake. Many fossil fuel companies have a proven record, past and present, of actively working to obscure the scientific consensus around climate change. By continuing to invest in these companies, we knowingly endorse efforts to undermine MIT's commitment to scientific analysis and practical action for the betterment of humankind.

Divestment is the moral course of action, and also the financially prudent one. Any solution to climate change will require an unprecedented reduction in the demand for

Faculty Signatories: Scott Aaronson, Assoc. Professor; Frank Ackerman, Lecturer; Takako Aikawa, Senior Lecturer; Eric Alm, Assoc. Professor; Angelika Amon, Professor; Deborah Ancona, Professor; Jolyon Bloomfield, Lecturer; Karen Boiko, Lecturer II; Louis Bucciarelli, Professor Emeritus; John S. Carroll, Professor; Noam Chomsky, Institute Professor (retired); Ian Condry, Professor; Jane Abbott Connor, Lecturer II; Bruno Coppi, O.M.R.I., Professor; Sasha Costanza-Chock, Assoc. Professor; Jennifer Craig, Lecturer II; Daniel Cziczo, Professor; Michel Degraff, Professor; Junot Díaz, Professor; Robert G. Eccles, Lecturer; Elfatih A. B. Eltahir, Professor; Dara Entekhabi, Professor; Roberto Fernandez, Professor; Danny Fox, Professor; Robert M. Freund, Professor; Eric Goldberg, Assoc. Professor; Margarita Ribas Groeger, Senior Lecturer; Marah Gubar, Assoc. Professor; Timothy G. Gutowski, Professor; Charles F. Harvey, Professor; Sally Haslanger, Professor; Colette L. Heald, Assoc. Professor; Stefan Helmreich, Professor; Erica Caple James, Assoc. Professor; Pablo Jarillo-Herrero, Assoc. Professor; Jason Jay, Senior Lecturer; David Keith, Asst. Professor; Christine Kelly, Senior Lecturer; Michael Kenfossil fuels. Many of the world's foremost investment experts are warning that fossil fuels are overvalued in light of their dangers, risking trillions of dollars of stranded assets.

Divestment is not only right, it is powerful. Over the decades, divestment has proven effective at engendering the political will needed for bold leadership and legislation. MIT recognized this when it divested in 2007 in response to the human tragedy in Darfur. The impact of universities' thought leadership on public perception is tremendous.

By divesting from fossil fuels, MIT can call out the contradictions between the fossil fuel industry's business practices and the requirements for a safe and stable future. The social and political momentum created can help shift the efforts of both policymakers and industry toward development of sustainable resources. And as a component of a larger strategy, divestment inspires hope and galvanizes passion and action in both society and our students.

We do not call for divestment lightly, and the bounds of divestment must of course be carefully chosen. But in the end, we have a moral obligation to future generations - our children, our students, and beyond - to do everything we can to limit the most devastating consequences of human-driven climate change.

We stand alongside thousands of MIT students, staff, and alumni in urging you to divest the Institute's endowment from fossil fuels as part of a comprehensive climate action plan.

Sincerely yours, The undersigned faculty of MIT.

stowicz, Professor; Jonathan Alan King, Professor; Daniel Kleppner, Professor Emeritus; Judith A. Layzer, Professor: Sabine Levet, Senior Lecturer: Ceasar McDowell, Professor; David McGee, Asst. Professor; Vann McGee, Professor; Dennis McLaughlin, Professor; Haynes Miller, Professor; Nick Montfort, Assoc. Professor; Robert Nachtrieb, Senior Lecturer; Leslie Norford, Professor; James B. Orlin, Professor; Ozalp Ozer, Professor; Heather Paxson, Professor; Lee David Perlman, Senior Lecturer; David Pesetsky, Professor; Martin Polz, Professor; Bjorn Poonen, Professor; Jeffrey S. Rawvel, Professor; Norvin Richards, Professor; Susan Ruff, Lecturer II; Frederick P. Salvucci, Senior Lecturer; Leona D. Samson, Professor; Hilke Schlichting, Asst. Professor; Andreas Schramm, Professor; Michael S. Scott Morton, Professor Emeritus; Kieran Setiya, Professor; Brad Skow, Assoc. Professor; Robert Stalnaker, Professor; Donca Steriade, Professor; John Sterman, Professor; T. L. Taylor, Assoc. Professor; Judith Jarvis Thomson, Professor Emeritus; John Van Maanen, Professor; Jing Wang, Professor; Roger White, Assoc. Professor; David Gordon Wilson, Professor; Stephen Yablo, Professor; JoAnne Yates, Professor.

GUEST COLUMN

Refocusing the Climate Change Conversation

Divestment debate overshadows direct actions

By Daniel Rothenberg, Paul Kishimoto, Alec Bogdanoff, and Arthur Yip

This week, the initial phase of the MIT Climate Change Conversation will conclude with the release of a committee report weighing the pros and cons of actions proposed by the MIT community. A focus of that report will be on divestment of the Institute's endowment from fossil fuels. Without the early, critical efforts of Fossil Free MIT (FFMIT), the energetic, campuswide discussion of MIT's options for climate action would never have begun.

But — as current doctoral students directly engaged in climate change research and alumni of the MIT Joint Program on the Science and Policy of Global Change — we want to highlight an important part of the conversation overshadowed by the debate on divestment. The principles motivating this debate should also motivate many other actions that have been discussed less intensely. We share the divestment movement's vision of a lower-carbon world; however, direct actions and plans to address climate change are necessary and better accord with the Institute's global leadership in research and education.

MIT's stated mission is to lead through science and innovation. For decades, MIT academic groups have been at the forefront of research in climate, anthropogenic climate change, and the options for mitigating that change. Academics, policymakers, and citizens around the globe expect and need us to continue this work, which — some

may be surprised to learn — has often been funded by the very fossil fuel industry from which some wish to divest.

While it is true and unacceptable that several companies fund fear, uncertainty, and doubt about climate change and policy, many others see the writing on the wall. They know that change is coming, and they support MIT research in order to better understand climate change, imminent climate policies, and possible niches in a low-carbon future. And while long-term mitigation of climate change does require minimizing our dependence on fossil fuels, all credible pathways require their continued use in the near term. MIT has long embraced conscientious and productive collaborators outside academia. As a community, we should continue to expand such relationships and to bring all the major players in society's energy transformation to our table.

Beyond our external partnerships, climate scientists and policy researchers at MIT — proud of their scholarly rigor — have always upheld the responsibility to publish their findings, no matter how unpalatable those results are to sponsors or industry partners, including the fossil fuel industry. This steadfast commitment to quality and independence has earned MIT its reputation as an honest broker of sound, unvarnished, and clear-eyed technical and policy advice. This is why our faculty, alumni, and students are trusted voices in Washington, D.C. as well as capitals and boardrooms around the world. Decision-makers look to us for leadership and solutions to help tackle great challenges head-on, and they trust our counsel in a world filled with political rhetoric and polarization. Divestment is one such politically-fueled and polarizing move; we should focus on actions that better align with MIT's unique strengths in research and education and our partnerships in these endeavors.

We strongly identify with the moral imperative at the core of the divestment movement: we must act on climate change, now! Yet knowing the problem intimately, our community cannot solely focus on symbolic gestures such as petitions and demonstrations. The radiant energy and enthusiasm focused on divestment must also be channeled towards direct actions on campus through *mens et manus*, invigorating innovative climate and energy actions.

The Climate Change Conversation's Idea Bank crowdsources many such actions from the MIT community. Beyond the repetitive calls for divestment, the Idea Bank documents innovative seeds that MIT can. and should, nurture with the involvement of an even broader segment of our community. For instance, one idea calls for MIT to "lead a global problem-solving process on what to do about climate change." This could leverage existing groups on campus such as the Climate CoLab and the Center for Global Change Science, but with a renewed focus on implementing the solutions they research. Several other ideas call for MIT to pioneer microscale climate action, such as achieving a net zero-carbon or a net energy-exporting campus. Through successes in these ventures, MIT could lead

other campuses and municipalities nationwide into following in its footsteps. Both fresh and novel ideas like these and the engagement of the people behind them are the best outcomes of the Conversation.

For more than 150 years, MIT has been a trusted source of knowledge and a guide through revolutions both industrial and technological, helping transform society through groundbreaking research and education. Climate change, the great challenge of our time, is the next chapter in this history. Our community is capable of far more than just symbolic actions; we should lead the next transformation through actions that reflect our core mission: advancing knowledge and educating national and world decision-makers. Regardless of the divestment outcome, let's re-commit the collective intellect of the MIT community to writing the chapter of society's history in which we solve climate change.

Daniel Rothenberg is a PhD candidate in the Program in Atmospheres, Oceans, and Climate in the Department of Earth, Atmospheric, and Planetary Sciences; Paul Kishimoto is a PhD student in Engineering Systems and a researcher with the Tsinghua-MIT China Energy & Climate Project; Alec Bogdanoff is a PhD candidate in Physical Oceanography in the MIT/Woods Hole Oceanographic Institution Joint Program in Oceanography and in the Department of Earth, Atmospheric, and Planetary Sciences; Arthur Yip is an alumni of the Joint Program on the Science and Policy of Global Change and received an S.M. from the Technology and Policy Program in 2014.

Statistics and the new Institute for Data, Systems, and Society

Fostering a culture of statistics should be a key priority for IDSS

By Feras Saad

Earlier this semester, Provost Martin Schmidt and the Deans of the five schools announced the establishment of the Institute for Data, Systems, and Society, headed by Professor Munther Dahleh. This exciting new entity aims to "address societal challenges using analytical tools from statistics and information and decision systems," and will officially launch on July 1.

While the inaugural letter and subsequent news coverage of IDSS outlined the entity's high-level objectives and structure, little has been said about the proposed Center for Statistics. In comparison to peer institutions such as Stanford, Columbia and Berkeley, which have long-established statistics departments, the current structure of statistics at MIT is highly fragmented.

From my own experience, I have enrolled in several well-taught statistics courses in the Civil Engineering, Electrical Engineering and Computer Science, and Brain and Cognitive Science departments. However, given the different approach assumed by each department, it is challenging for students to progressively build a unified sense of sophistication and matu-

rity in statistical thinking.

According to the proposal submitted by Professor Dahleh, The Center for Statistics plans to address this issue by offering coherent, centralized programs in statistics. Degrees at the PhD and Master's levels are in their planning stages, and a full proposal for an undergraduate minor has already been submitted to the Committees on Curricula and Undergraduate Programs. While establishing world-class graduate level programs is a key priority, it is equally important for the visionaries of IDSS to develop a culture of statistics that interests and engages members of the MIT community from various academic backgrounds.

New introductory courses in Electrical Engineering and Computer Science are already reflecting this goal, such as 6.0002 (Introduction to Computational Thinking and Data Science) and 6.008 (Introduction to Inference). According to Professor Dahleh, a joint effort across all Institute schools is being coordinated to offer new courses in statistics and data sciences. The idea is to extend these opportunities to departments that are not heavily quantitative, such as Political Science, Anthropology, History, and Urban Studies.

The goal is not to create an unconscious

statistician out of everyone at MIT. Rather, we should encourage the skill of analyzing data from various fields from a statistical standpoint. Even an elementary probability and statistics requirement (a topic debated at the Institute for over a decade) could lay the essential foundations for incoming freshmen. For example, regression methods yield useful insights when studying data, and they do not require a vast amount of mathematical machinery to get started.

We should encourage the skill of analyzing data from various fields from a statistical standpoint

One common misconception is that statistics is a dry subject of mainly theoretical interest. But 21st century statistics is experiencing a revolution, fuelled by the explosion of data and computational power. An inaugural symposium for The Center for Statistics was held at MIT earlier this month, where top academics from

across the country discussed their use of statistics in novel areas such as cancer detection and data-driven decision-making in industry. To promote these ideas among the MIT community, Professor Dahleh says the plan is to hold a regular seminar series in the future.

Most of the core elements for a successful statistics center already exist at MIT; over a dozen departments and research centers feature their own flavor of statistics research and course offerings. It will be interesting to see how IDSS integrates various groups across campus in a way that fosters successful collaboration. Creating a hub for sharing ideas between data scientists and social scientists will bring a new dimension to both fields, as well as innovative, real-life research outcomes.

IDSS is a highly ambitious and complex initiative that faces an array of academic, financial, and bureaucratic hurdles. But the project identifies a genuine shortcoming in MIT's current academic system and outlines a vision for change. Successfully tackling societal issues with rigorous statistical frameworks will cement MIT's academic and thought leadership, as well as nurture generations of experts in interdisciplinary domains for decades to come.

A farewell to the Class of 2015

Thoughts from a Junior

By Keertan Kini

Today, new scientists and engineers, economists and financiers, academics and professionals leave MIT and begin their careers, among them many of my closest friends and colleagues. What strikes me most about this time of year is the atmosphere: not the fatalism that follows exam week or the relief at having reached a vacation, but rather a quiet (or not so quiet) sense of anticipation and hope for life beyond the Institute from those convening in Killian.

To be fair, the vast majority also appears thrilled and terrified in equal measure at having to enter the "real" world. Nevertheless, after long years of study, this class of passionate, ambitious individuals can now pursue purpose, or at least possibilities. There is a palpable sense of idealism around how the world will be shaped by those who have already left indelible marks on MIT. Ills both social and medical may be alleviated, corruption cleaned, and companies constructed.

Yet there is no greater poison pill, no more insurmountable barrier to finding that

purpose and achieving progress than falling prey to cynicism. As comedian George Carlin aptly stated, "Inside every cynical person, there is a disappointed idealist." This climate of idealism provides fertile ground for such cynicism because disappointments will come.

There is a palpable sense of idealism around how the world will be shaped by those who have already left indelible marks on MIT

The last time I felt this atmosphere was as a freshman, facing a wealth of opportunities and a mostly-blank slate upon which to write. Yet as the years passed, I have felt in my own class and in the Class of 2015 a weariness biting. A veil of fatigue has slowly fallen, obscuring the possibilities that once excited and delighted. Living pset to pset and enduring repeated all-nighters has left many jaded, whether about the present cir-

cumstance or the future promise. Idealism distorted to cynicism. It may again, soon.

In the celebrations that have already begun, it is painless to forget that the coming challenges may dwarf those already surmounted as undergraduates. It is painless to imagine that societal problems are for others to address and to absolve oneself from shouldering the burden. It is painless to concede that the minds of individuals cannot be changed and therefore any such effort made is futile. It is painless to criticize those who do not take said painless routes, struggling with failure and mistakes to make that progress.

It may be painful to admit that those with the ability to act have the responsibility to act, and that we have the ability. It may be painful to admit that lifetimes must often be committed to achieve breakthroughs; as Max Weber put it, "Progress is the slow boring of hard boards and anyone who seeks to do it must risk his own soul." It may be painful to hope and believe in the face of repeated disappointment, the price of idealism.

It is infinitely more difficult to remember these lessons when surrounded by congratulatory friends and family, after the long and arduous journey that is the undergraduate degree. Yet to forget them is to lose sight of the road ahead.

Two of my personal heroes, Louis Brandeis and Mahatma Gandhi, embodied practical idealism, using ideals to set their goals and pragmatism to guide their approaches. Whether by fighting in the courtroom as the "People's Attorney" and as a Supreme Court Justice, or by fighting in the hearts and minds of the people for nonviolent civil disobedience, both Brandeis and Gandhi accepted progress, however slow and steady, yet driven by a clear vision. When aspiring to do great things, whether as a schoolteacher or a CEO, this is among the most impactful means. These icons did not live to see all their goals fulfilled, but the strength of their actions and characters continue to shape our world.

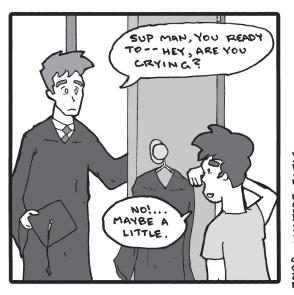
There is great work yet to be done, and I hope that this sense of possibility does not disappear, but rather acts as a new fuel to the roaring flame of the graduating class's achievements.

Congratulations and well done! I expect I shall have more and more cause to say that in the coming years.



UPPERCUT by Steve Sullivan







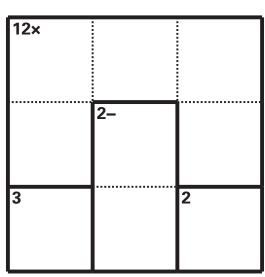


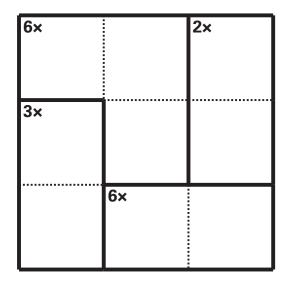




Baby Techdokus

Solutions, page 3







Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1-3. Follow the mathematical operations for each box.

Not Too Shabby by Bruce Venzke

Solution, page 3

ACROSS

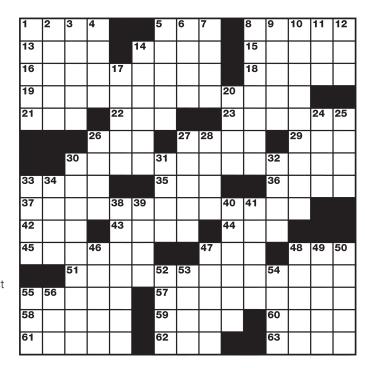
- 1 '90s sitcom star
- 5 Grass house
- 8 Something to step on
- 13 Gazetteer datum
- 14 8 Across adjustment 15 Less fresh
- 16 Bill add-on
- 18 What "-phile" means
- 19 Start of a quote
- 21 Spam holder
- 22 Sgt. maj., for one 23 Andersen's birthplace
- 26 No-nonsense, in product
- names 27 Pie perch, perhaps
- 29 __ Maria liqueur
- 30 Middle of quote
- 33 911 responders
- 35 Titanic star, to tabloids
- 36 Trinity novelist
- 37 End of quote
- 42 Overwhelm, with "down"
- 43 Loud complaint
- 44 Maximum
- 45 Whoopi Oscar role

- __ on parle français
- 48 Litigate
- 51 Source of the quote
- 55 Not great 57 Handles
- 58 Card-game authority
- 59 Feathered missile
- 60 Billy Bookcase seller
- 61 It might be followed by "fit"
- 62 Academic pds.
- 63 Shabby

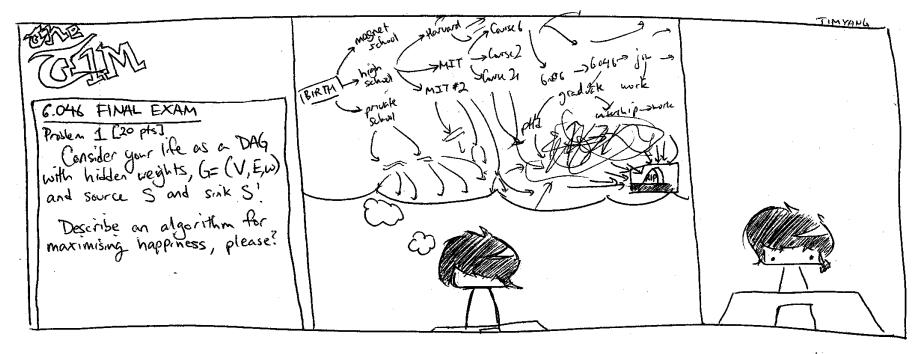
DOWN

- 1 No-frills
- 2 One of the ABC islands
- 3 Another showing
- 4 Somewhat improper
- 5 Selma co-producer
- 6 Sudden itch
- 7 Certain Jeopardy! tourney player
- 8 With no doubt 9 Spice in some hams
- 10 Exciting experience 11 Atticus Finch creator

- 12 Stumble
- 14 Common campaign
- promise
- 17 Toulouse-Lautrec's first name
- 20 Something to step on
- 24 "Absolutamente!" 25 Vittles
- 26 Elongated canine
- 27 Sneak (away)
- 28 Waffle House rival
- 30 The Marxes, in Monkey **Business**
- 31 Whole lot
- 32 Sudden increase
- 33 Red Muppet
- 34 What music might help set
- 38 Steinbeck's title poodle
- 39 Farm hand, at times
- 40 Supernatural
- 41 Innocent ones
- 46 Tree-lined promenades
- 47 Construction beams
- 48 Redford's watch in All Is Lost
- 49 Outright



- 50 #6 baby boy name in 2013 52 Christian Science founder 53 Approaching
- 54 Text-message qualifier 55 Silencer's sound
- 56 "You can't mean me?"







Sudoku

Solution, page 3

2			2 5		9			3
	3			6		1		3 9
6					1		4	2
	3	1	9	6	1	3	4	2

Techdoku

Solution, page 3

20×			24×	6×
7+	30×		3	
	6×		48×	
12×	<u> </u>	21+		
	1–	<u> </u>	5	15×
144×	-			

FRIDAY, JUNE 5, 2015

Congratulations to The Tech's Class of 2015

HELLO!

Tami Forrester Chennah Heroor

Austin J. Hessay

Casey Hilgenbrink

Judy Hsiang

Jacob London

Christopher A. Maynor Annia Pan

Sherry Xiaoyi Ren

Esme Rhine

Steve Sullivan

Melissa Renée Schumacher

The Tim

Kali Xu

Susie: Hey Ethan!

Ethan: What's up?

Susie: I'm looking for a job on campus. Do you have any ideas? I like programming and computers.

Ethan: You should join the technology department at The Tech! We pay \$14/hr.

Ethan: You get to learn valuable job skills too!

Susie: Cool, but what if I don't know that much yet?



Ethan: We've got people who can help you out.

Ethan: E-mail join@tech.mit.edu and we'll send you more info!

10 THE TECH FRIDAY, JUNE 5, 2015



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The time is right: social justice at MIT

By Abigail Francis

It is with a heavy heart that I write this letter. As an institution we are standing in reflection and grief after too many deaths of our students and employees. Nationally from Ferguson to Baltimore, we are grappling with large scale racial and class injustices. I was asked to contribute to this 'Intuitively Obvious' column, and it is a good time for us to consider how best to care for each other, our community, and for ourselves.

This summer will mark my tenth year here at MIT. As I think about our social justice work, I am reminded of a quote from Margaret Mead: "Never doubt that a small group of thoughtful and committed citizens can change the world." I have come to realize that it is only so long that the same small group of people can continue to help keep students and each other safe, functional, productive, and whole. I believe we need more citizens, more commitment, more thought, and more institutional infrastructure to bolster the efforts of the few incredibly dedicated and talented staff, students, alumni, and faculty working to create positive change.

Some of the most important work that I do is in supporting those who fall within the margins of the marginalized. People are often surprised to learn that so much of the community building I offer is with LBGTQ self-identified people of color, women, people with disabilities, and international students. I have such respect for them - especially those who have told me that they are alive today because

of the work we're doing. Despite losing their tuition funding or all their support networks after coming out to their friends or family, they have found the space and the courage to love or to be who they truly are, even in the face of harassment and discrimination in these very halls.

We all hold a collective responsibility to shape the future of MIT. So today I ask us these challenging questions:

If we are to fulfill our mission "to work with others and bring knowledge to bear on the world's great challenges" and "to work wisely and effectively for the betterment of humankind," then how do we, as an institution, work to ensure that there are more black men in our colleges than in our prison systems?

What would it take to ensure that all women of color on our campus shared the same level of self-esteem and self-confidence as their peers and colleagues?

With students and faculty that have ties all over the world, what does it mean for us that there are 80 nations that criminalize homosexuality, seven of those where it is punishable by death, or that there are 32 states where you can still be fired for being LBGTQ identified?

How do we address the fact that roughly one in four females and one in seven males in the US will experience sexual violence, even here at MIT?

How do we acquire more accurate data on, offer more support to, and track the progress of our transgender, genderqueer, and gender non-conforming students?

What would it take to have our staff and faculty match the diversity of our undergraduate student

How can we change the fact that based on student quality-oflife survey data, LBGTQ students, students of color, women, and international students are significantly less satisfied here, some even reporting that they feel less safe on campus and more isolated than their majority group peers?

What would it mean to have more trained, experienced, and qualified leaders in social justice helping to shape our future?

As I plan social justice efforts, I keep hearing (mostly from those with majority group identities) that MIT is not "ready" to talk about privilege, especially white privilege. I think that we are. At this time in our nation's history, we have a responsibility to talk and to act, to undo and eliminate racial injustice as well as sexism, heterosexism, cis-gender privilege, and other forms of oppression. As Martin Luther King Jr. put it, "the time is always right to do what is right".

Now, I know that we have made some strides forward. We should take pride in these. We have added gender-affirming surgeries to our health insurance policy. We are looking to add gender-inclusive housing options and more gender-neutral restrooms across campus. We have created an Institute Community and Equity Office and broadened

resources and staffing in Violence Prevention and Response and in Student Support Services. We have several offices and student groups that focus on supporting various aspects of people's identities, and those groups are making more connections with each other. We have created Employee Resource Groups, included diversity-related awards in our recognition programs, and host an annual MLK scholars program and Diversity Summit. This list could

What would it take to have our staff and faculty match the diversity of our undergraduate student body?

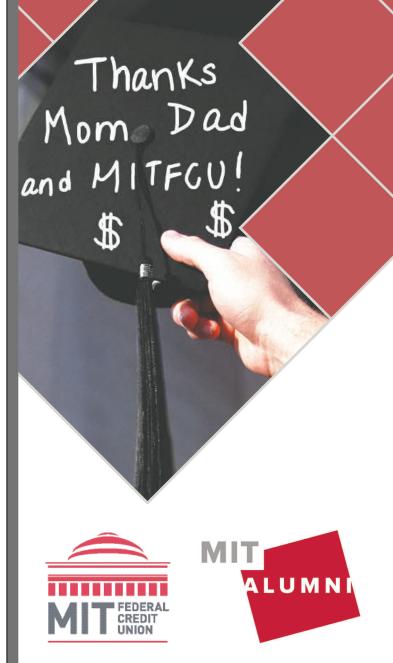
But if "diversity" is listed as one of the four main initiatives on our homepage, why are there still so few resources available for these efforts? How can we help that same small group of volunteers striving to move mountains with regard to equity, inclusion, respect, justice, and campus climate? What would it look like if we understood, valued, and talked about "diversity" in the same way that we talk about cancer, global initiatives, or energy?

Imagine what could happen if, today, each of us thought about one area of identity or social justice where we are less comfortable — nationality, religion, class, sexual orientation, gender iden-

tity, race, size, ability, age - then leaned into that discomfort and read an article, talked to a friend, listened to a podcast, or watched a video to learn more. What if we each took action regarding something we had learned? What if we could then challenge an internal bias that we hold, offer an educational lens to a degrading joke, or intervene in a micro-aggression that we witness? Yes, this work is messy. It is uncomfortable. It is in everyone's and in no one's job description and academic pursuits. It is relatively unclear. But if we make the time and effort, dedicate resources, learn more, and invite someone to join us, then eventually we all move forward.

This winter we organized a peaceful protest and panel discussion about if and how Black Lives Matter at MIT. Following the event I made a list of "the ten racist things I saw while planning an event about race at MIT." And here's the thing: I'm on that list twice. Sometimes the hardest and most important aspect of this work is how we transform ourselves along the way. That includes being honest, compassionate, accountable, and patient with ourselves and with others. Because there is so much work to do. We put this event together in just two weeks and then 430 people showed up. The momentum is here. The time is now. Remember, "the time is always right to do what is right." We collectively own the responsibility to shape the future towards more respect and caring for one another. I look forward to continuing this work, and I hope you will join me.

Abigail Francis is the Director of LBGT Services at MIT.



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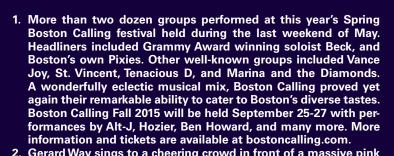
FRIDAY, JUNE 5, 2015

BOSTON CALLING









Gerard Way sings to a cheering crowd in front of a massive pink and orange monkey backdrop.
 Marina and the Diamonds sings in a sparkling violet jacket and a headband spelling "Froot", the name of her newly released al-

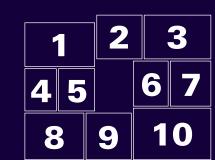
Jason Isbell, the singer-songwriter and guitarist from Green Hill, Alabama performs to a grooving crowd.
 Australian singer Vance Joy smiles during a song in response to audience's enthusiasm.

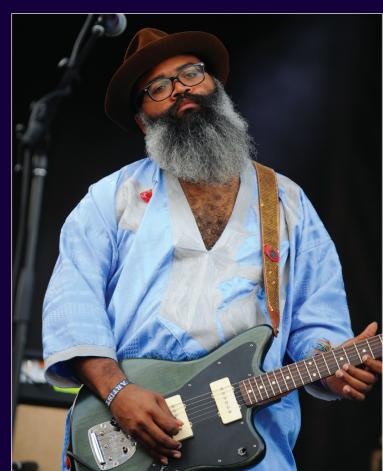
6. Kyp Malone of the Indie rock band TV on the Radio plays bass during Day 3 of the music festival.
7. Tunde Adebimpe, of TV on the Radio, conducts the audience dur-

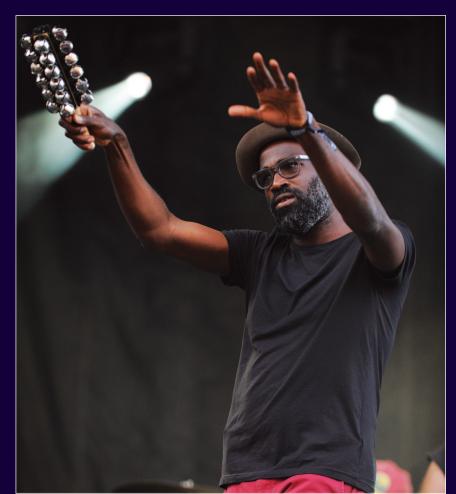
ing the group's performance.
8. St. Vincent performs songs from her 2014 album, "St. Vincent".
9. Lead guitarist and vocalist Kyle Gass of the American comedy

rock duo Tenacious D sings the group's top hit, "Tribute".

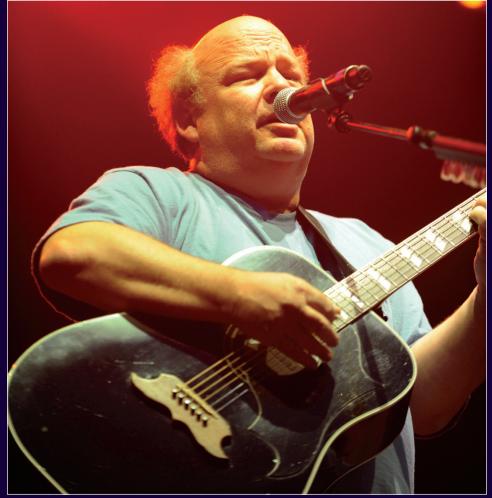
10. Two audience members walk towards the Red Stage as others relax on the brick between shows.













RTSARTSARTSAR

MOVIE REVIEW

The Grief of Others

MIT alum's sophomore film is slight, but admirable

By Nevin Daniel

I had the opportunity to attend a screening of The Grief of Others with the director Patrick Wang '98. Wang studied economics and concentrated in music and theater arts at MIT, and went on to direct theatre and recently, film, His first film, In the Family, was critically lauded and rightly so. The Grief of Others, his latest film, just showed at the Cannes Film Festival. Wang left early from the screening I attended at Harvard to go to the Festival; as a result, I did not get the chance to ask him about the film. But I did get the chance to ask the author of the eponymous novel on which the film is based, Leah Hager Cohen, about one of the film's final shots.

The "Others" in *The Grief of Others* primarily refers to the Ryrie family: John and Ricky (a female), thirteen-year-old Paul and ten-year-old Biscuit (also a female). They are joined by Jessica, John's older, pregnant teenage daughter from a previous marriage. Jessica, beautiful and affable, is invited by John to stay with the family during her pregnancy.

If the Ryries are the others, their grief is the loss of their baby: it is born missing part of its brain and dies soon after birth. The loss is unaddressed by John and Ricky.

In the emptiness, latent resentments and insecurities in their relationship fester, and the children act out. John gets irritable and drunk often. Ricky is cold to him. Biscuit skips school. Paul, bullied for his weight, withdraws further into his shell.

Here and there is the occasional fight.

The direction of causation is important here. The film is constructed as if the family's silence is the cause of their unrest: the silence presumed, the unrest depicted. But it takes an emotionally stunted people to lose a child and, I imagine, not to speak about it on the ride home. This is one of the film's flaws.

Otherwise, the content of the film is unerring. The dramatic moments that Wang chooses to illustrate are occasionally original and always authentic. As others have written, this is likely reflective of his experience in the tro

The film aspires to melodrama, however, and does not achieve it. This aspiration is reflected in the film's execution. The majority of the film depicts everyday life in the Ryrie house, which exists in an upstate New York of muted colors. Conflict is subtle, mostly implied and obliquely so.

Explicit conflict is sparing, yet we long for the scenes where bonds are tested and formed. John comes home one night drunk and confronts Ricky with suspicion of an affair. Ricky admits instead that she knew the baby would not live. Paul, usually defensive, opens up to Jessica. Then, he grows a bit too close.

In these shots, Wang keeps the camera far away and stationary, relying on the strength of the dialogue and the moment (and it is strong). Simple match cuts and fades — though, at times, borderline amateurish — underscore the confidence of the storytelling. To be sure, the distant style is to be appreciated: it does indeed feel as if we are peering into the lives of others.

It is unfortunate that these moments are few and far between. There is simply not enough dimension to the family's grief to sustain such prolonged, enigmatic treatment.

This is only made terribly clear by the film's other major storyline. At the beginning of the film, Biscuit, her back to the camera, is throwing something into the Hudson. She falls in (though, like many of the events in the film, it is unclear at the time). A shy, sensitive young man named Gordie Joiner, out on a walk with his dog, rescues Biscuit from the water and brings her home. He is invited in and meets Jessica. Jessica begins to spend time with him.

Gordie lives alone with his dog in his family home. His mother has been gone a long time, and his father has recently passed. He is an orphan.

Is Jessica interested in Gordie? It is ques-

tionable. She is pregnant and that complicates things. Still, Jessica is taken with him: we sense Gordie is a welcome foil to past boyfriends, to the absent father of her unborn child. In time, the nature of their relationship will offer a pretense for Gordie to express his own grief.

His grief is immediately palpable: Gordie and Jessica are bashful in one another's presence, as one is with a teenage crush, but Gordie is a bit more reserved in showing affection. Still, they connect over his deceased father's handmade dioramas. Where Gordie sees a kitschy, pitiful escape for his modest, blue-collar, postal worker father, Jessica sees heartbreaking art.

Gordie is the only main character not part of the Ryrie family. His story seems altogether distinct from theirs. But his suffering is equivalent, if not greater, for the circumstances in which he has to deal with it: Gordie is young and alone.

He occupies little screen time, and yet, in a story that is subtle, told through assumption and inference, in a story that aspires to put a greater burden on its audience, that is what the enigma of his grief is worth. When Gordie's story comes to a climax, when he confronts Jessica, the reveal is beautiful. Their walks on the river, their discussions of Gordie's father's dioramas, wistful and moving yet vague, pay off.

With Gordie, Wang conveys the manifestations and consequences of unspoken grief in a fraction of the time he spends with the Ryries. By far, Gordie's story is the best part of *The Grief of Others*.

Comparisons of the movie with Wang's previous, superior film *In the Family* are inevitable, as it is a thoughtful family drama similar in style. *In the Family* tells the story of Joey, a gay man played by Wang himself, who, after his partner dies, loses custody of his son, biologically his partner's from a previous marriage. The war of *In the Family* is enormously more daunting: Joey is poised against the weight of all the American South's homophobia for the right to

★★☆☆
The Grief of Others
Directed by Patrick Wang

parent his son. By comparison, the Ryries' only enemies are themselves, the stakes only their own solace. The contrast between the self-involvedness of *The Grief of Others* and the utter lack of selfishness of Joey in *In the Family* — one of the most humble and compassionate men I've seen on film — is remarkable.

Ironically, Wang treats Joey's story in *In* the Family with less melodrama than the Ryries' in *The Grief of Others*.

Still, the film is a good one, and Wang is a talented director. I regret that I didn't get the chance to ask him about the film. In particular, near the end of the film, the shot opens up (in reality, there is an effect that regrettably seems to have been executed with Microsoft Paint) to show the Ryries within the context of the world at large, surrounded by ordinary people unaware of (and so indifferent to) the family's grief despite their physical proximity.

It was sad. I asked Leah Hager Cohen whether she thought that was the way life is, or whether we might expect greater empathy, involvement, or a way to truly and meaningfully engage in such moments with the grief of others.

She replied that she believed when we share our griefs with others, we enforce a common empathy. True, though somewhat of a non-answer.

I didn't press. I felt uncomfortable enough as presumably the only person under 40 in the audience, much less the only person to ask about the meaning of the film. Cohen's response was, after all, the expected yet imperative message of the film itself: the grief of others is the same as our own.

So let's tal

MOVIE REVIEW

Pitch Perfect 2 is far from perfect

The sequel is just a bigger, louder, and cruder version of the original

By Ka-Yen Yau

STAFF WRITER

Pitch Perfect 2 is the long-awaited sequel to Pitch Perfect, released in 2012. The film opens with the Barden Bellas, now seniors in college, performing for Barack Obama. The performance goes terribly wrong after a wardrobe malfunction results in Fat Amy (Rebel Wilson) flashing the audience. This incident leads to the team's suspension, and Beca (Anna Kendrick) strikes a deal that will allow the Bellas to be reinstated under the condition that they win the Acapella World Tournament. The rest of the film follows their shenanigans and mishaps as they make it through their final year of college and prepare for the final competition.

If you loved the first movie, you will definitely enjoy this one. All the characters

are back as fellow students or as graduated alums who are still inextricably linked to the team in some shape or form. The same jokes were made, there was another riff-off, and they even sang the same song ("When I'm Gone"). But the insistence upon making the sequel so similar to its successful predecessor was ultimately its shortcoming. There were so many gimmicky, timefilling subplots just to showcase some old characters or events that otherwise served little to further the plot. Many minutes were devoted to an orientation performance by the Treblemakers and to a riff-off coordinated by a random, creepy acapella enthusiast. Although these scenes were enjoyable (when else will you be able to see the Green Bay Packers singing as an acapella group?), they felt disjointed from the actual occures of the movie and were never referred

to again. The jokes were also ultimately the same, only this time more extreme and explicit. Every single joke was either racist, sexist, about sexual orientation, or about bodily functions. Instead of being charming or witty like in the first movie, the jokes in *Pitch Perfect 2* felt old, lazy, and reused.

Fortunately, there is a redeeming point to the movie: it presented many issues that hit really close to home for us college students. As college seniors, the main characters felt the scary reality of life-after-graduation looming over them. The themes of potential failure and going unnoticed were explored throughout the film as the girls contemplated their futures or attempted to enter the career world after they graduated. Although these characters were valued and talented individuals in college, they were constantly reminded that once they gradu-



Banks

Directed by Elizabeth

Starring Anna Kendrick, Rebel Wilson, Brittany Snow, and Hailee Steinfeld

Rated PG-13

Now Playing

ated. no one would care that they were once acapella singers. For instance, one of the characters purposely failed school three times so she could continue being a Bella, because it was the only thing she knew how to be. Even more terrifyingly, the majority of the graduating seniors confessed that they had no idea what they were planning to do after college. Although most of these issues were dismissed with jokes, these questions resonated with a large part of the audience. As college students, we have to ask ourselves "What will I do after I graduate?" all the time; watching the students of Barden University bumble around, we are both comforted by the fact that we are not alone in our confusion and we are inspired to try to figure it out.

But all in all, the movie was fun. The music was enjoyable to listen to, the characters were lovable, and the plot's twists and turns were surprising. The movie's serious themes were laced with jokes which, although crude, offered a good time for us to laugh about ourselves. It served as a great reminder that sometimes, laughing at ourselves (and at fictionalized, hyperreal versions of ourselves) is the best way to get over our prejudices, self-hate, and anxieties.



(L to R) Cynthia Rose (ESTER DEAN), Ashley (SHELLEY REGNER), Jessica (KELLEY ALICE JAKLE), Emily (HAILEE STEIN-FELD), Beca (ANNA KENDRICK), Chloe (BRITTANY SNOW), Stacie (ALEXIS KNAPP), Fat Amy (REBEL WILSON) and Lilly (HANA MAE LEE) are the Barden Bellas in Pitch Perfect 2, the follow-up to 2012's surprise hit.

MARTS ARTS ARTS ARTS ARTS ARTS ARTS

Poltergeist (2015): lots of action, some comedy, hardly any horror

Gil Kenan pays tribute to the 1982 classic

Poltergeist

Directed by Gil Kenan

Starring Sam Rockwell, Rosemarie DeWitt, Kennedi Clements

Rated PG-13

Now Playing

By Rushina Shah

This remake of Steven Spielberg's Poltergeist (1982) sees a jobless couple and their three children move into a new home that fits their budget. Griffin, their ten-year-old son, lives in the attic, where he experiences frequent nightmares and finds frightening clowns in the closet. To make things worse, he also finds his younger sister Madison talking to mysterious objects through the TV in the middle of the night. "They're here," she claims ominously. His parents disregard his nervousness and their youngest daughter's sleepwalking until one night, their house is attacked and Madison is taken. The Bowens discover that their house was built on what was an old cemetery, moved to make way for construction. To cut costs, the construction company moved the headstones but left the bodies — leaving the Bowens to deal with some extremely unhappy poltergeists looking to move out of the limbo they are stuck in.

The remake has some stimulating visual and sound effects — the scenes featuring the



OURTESY TWENTIETH CENTURY FOX AND METRO-GOLDWYN-MAYER PICTURES IN

Madison Bowen (Kennedi Clements) reaches out to apparitions that have invaded her home.

eerie clowns were particularly enjoyable. Kyle Catlett, who stars as Griffin, is convincing in his nervousness and in his role as a protective, if scared, older brother. Kennedi Clements makes an adorable Madison, compelling the audience to be concerned. The other characters and the plot, though, leave much to be desired. Sticking pretty close to the original, the changes in the remake mostly detract from it — the eccentric and enjoyable character Tangina is replaced

by a tacky TV show ghost-cleanser, played by Jared Harris, making the experience much less scary and much more like parody. Sam Rockwell and Rosemarie DeWitt, playing the parents of the kids, do an unconvincing job pretending to care that their child has been taken. On the plus side, there was no hysteria, but their parental instinct kicked in so late in the film that it had me wondering if they were the ones behind the kidnapping. The inclusion of comedy was interesting,

with some scenes being quite funny, but it seemed to add a lot of misplaced moments of humor and lent a very strange mood to the setting.

The 2015 remake pays homage to the 1982 original with action-packed sequences and great effects. Although quite enjoyable, it is, however, not half as scary as the original. I would recommend watching this movie for entertainment, but don't expect any nightmares.

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Court: subpoena is legal under statute

Court worries investigation may discourage 'cutting edge' research

Tidbit, from Page 1

has serious concerns that the [State of New Jersey], with this investigation, may be acting to discourage creative and 'cutting edge' new technology. [I]t appears that the Tidbit program and other similar creative endeavors serve a useful and legitimate purpose." The court also acknowledged, though, that the software "could also be subject to abuse and misuse."

Rubin and others believe that the subpoena might have done more harm than the State of New Jersey intended. He wrote that another company, 21, has raised \$116 million dollars toward their plans to use consumer devices to mine bitcoin.

"Had we not stopped operations due to the burden of fighting the subpoena, who knows! Perhaps we would have been able to capitalize on our first-mover advantage."

He'd had high hopes for the software: "Tidbit's design hoped to eliminate the need for advertising on websites, also eliminating the incentives for websites to violate their users' privacy to make advertisements more lucrative," he wrote on his website.

MIT faculty members, administrators, and students had all sent letters to the state of New Jersey requesting that they withdraw the subpoena.

"We urge your office to reexamine the need to subpoena and impose interrogatories on the Tidbit students" President L. Rafael Reif, Provost Marty Schmidt PhD '88, and Chancellor Cynthia Barnhart '88 wrote in a letter to John J. Hoffman, New Jersey's acting attorney general.

"[A]n undue chilling effect arising from the subpoena and interrogatories served on Mr. Rubin will have adverse consequences in New Jersey as surely as at MIT."

Last week's settlement required Rubin to disclose a minimal amount of information and agree to pay a \$25,000 fine in the event that Tidbit violates the agreement by engaging in "unfair or deceptive acts" or accessing computers of persons in New Jersey without

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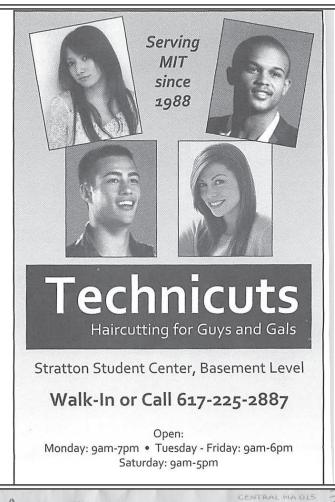
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FRIDAY, JUNE 5, 2015 **THE TECH 17**

Letters are part of larger conversation

Student letter garners signatures from some graduate living groups

Divestment, from Page 1

industry in funding MIT research on campus.

Among the faculty who signed the letter was Associate Professor Scott Aaronson. "Signing this petition wasn't an obvious choice for me," Aaronson wrote. "I'm sensitive to the charge that divestment petitions are ... a way for activists to feel morally pure without either making serious sacrifices or engaging the real complexities of an

However, Aaronson said that he decided to sign the petition after seeing that the organizers had "a clear-eyed understanding of what they were trying to accomplish and

why."

"They know that divestment panies' stock prices, but it can powerfully signal to the world a scientific consensus that, if global catastrophe is to be averted, most of the known fossil-fuel reserves need to be left in the ground, and that current valuations of oil, gas, and coal companies fail to reflect that reality," he wrote.

Professor Emeritus Chomsky, who has spoken publicly in favor of divestment on several occasions, also signed the letter.

The faculty letter began to take shape after Professor Charles Harvey wrote to the MIT Faculty Newsletter in support of divestment. Initially, the faculty members who were contacted to sign the letter were those who had expressed support for divestment in the CCC's Idea Bank. A full draft of the letter had already been written by the time Vice President Maria Zuber called on faculty to join the campus dialogue in the March/ April Faculty Newsletter.

The value we get out of MIT investments needs to align with our values. As faculty, we make those decisions all the time with our investments of time and energy," Condry wrote. "Our hope is that MIT will do the same with our endowment."

The student letter was organized by the UA Sustainability Committee, the Sustainability Subcommittee of the GSC, Fossil Free MIT, and the MIT Sustainability







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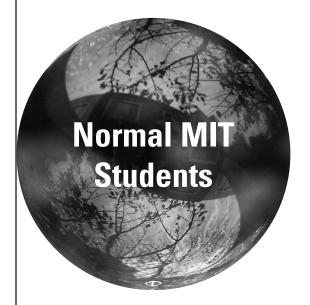




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New curriculum offered for students doubling in 6-1 & 8

Three 2015s majored in EE and Physics; combined major will provide substitutions, lighten courseload

By Alexandra Delmore

ASSOCIATE NEWS EDITOR

The Department of Physics and the Department of Electrical Engineering and Computer Science have recently announced changes to the curriculum for undergraduates double majoring in Electrical Engineering (Course 6-1) and Physics (Course 8).

According to Associate Department Head of EECS David J. Perreault, the changes will streamline the 6-1 and 8 double major. The changes came about after faculty and students expressed interest in improving the curriculum: "it was both a faculty and student initiative," Perreault said in an email to The Tech.

The new track for the 6-1 and 8 double major is based on the 8-Flex option in physics and allows students to replace some of the requirements for 6-1 with classes from Course 8.

Students double majoring in 6-1 and 8 can now fulfill the requirement for one of two required 6.01x subjects (6.01, 6.02, or 6.S03) by taking Vibrations and Waves (8.03), which is a requirement for

Electromagnetic Energy: From Motors to Solar Cells (6.007), can now be replaced with Quantum Physics I (8.04), satisfying one of three required foundation classes in 6-1 and a required class for

One of the three header subjects in 6-1 (6.011, 6.012, or 6.013) can now be replaced with Quantum Physics II (8.05), which can be chosen from among two other Course 8 subjects to fulfill a requirement in the 8-Flex track.

In 2014, 2013, and 2012, five students double majored in 6-1 and 8 per year. This year, three students are graduating with double majors in 6-1 and 8.

All other requirements for both the 6-1 and 8-Flex majors remain in place. These substitutions are only valid for students majoring in 8-Flex and 6-1 and do not apply to Course 6-2 or 6-3 majors.

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THE TECH 19

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Layzer, from Page 1

ling story" to gain more support, as she wrote in a Boston Review article in 2012.

"You have to fight ideas with ideas," Layzer added in a 2013 interview with MIT News.

Within the field of environmental policy and politics, Layzer's work ranged widely across topics, including clean air and clean water regulations, land protection, species conservation, and climate change. She had also become increasingly focused on issues of urban sustainability, including studies of food systems.

Layzer wrote three books and published numerous articles, among other scholarly accomplishments, while teaching highly regarded classes to MIT undergraduates and graduate students.

Layzer's colleagues remember her as a person driven by a strong sense of ethics and possessing exceptional intellectual qualities.

"Besides being a brilliant scholar and exceptional writer, Judy was also a dedicated — and demanding — teacher," says Professor Eran Ben-Joseph, head of the Department of Urban Studies and Planning. "She was an inspiration and a role model precisely because she expected the best from her students, her colleagues, and herself. She was tough, but always fair; stern, but always caring."

Ben-Joseph adds: "Judy was motivated by intellectual curiosity and a zest for academic inquiry, but more importantly she was driven by an underlying sense of ethics and a core belief that we would be wrong — period, no qualifiers — to destroy the planet and its natural systems. She was a true friend who would often make you laugh and a scientist who would always make you think. She was a person of genuine integrity who will be sorely missed."

Influential work, popular teaching

Layzer received her undergraduate degree in economics from the University of Michigan in 1985, and her PhD in 1999 from MIT's Department of Political Science. Her doctoral thesis, "Sense and Credibility," examined a series of environmental-protection disputes, ranging from the controversy over acid rain to restoration of the Florida Everglades.

In her work, Layzer detailed how science is a foundation for environmental advocacy, while noting that policy decisions are often settled by the relative strengths of the opposing coalitions. However, science-based advocacy, she asserted, can influence the strength of those opposing groups.

Her thesis research became part of her first book, "The Environmental Case: Translating Values into Policy" (CQ Press, 2002), an influential work now in its third edition; Layzer added considerable new material, on climate change and other topics, to the later editions.

Layzer's second book, "Natural Experiments" (MIT Press, 2008), examined whether recent approaches to conservation

across the U.S. have been effective; she concluded that some of these programs are less likely to produce environmental improvements than policies enacted through traditional top-down political means.

In her 2012 book, "Open for Business" (MIT Press), Layzer examined how conservatives sometimes have succeeded in environmental debates by tapping into, among other things, public mistrust of regulation to argue for opening up federal lands for further development.

Layzer taught at Middlebury College from 1998 until 2003, when she rejoined MIT as an assistant professor in DUSP. She was promoted to associate professor in 2007, and to full professor in 2014; she also became head of MIT's Environmental Policy and Planning Group in 2010.

Layzer gave talks at academic and policy conferences both around the U.S. and internationally. Awards she received included the Lynton B. Caldwell Prize for best book in environmental politics and policy; the John C. Donovan Prize for Best Paper, awarded by the New England Political Science Association; the 2013 DUSP Graduate Student Council Advising Award; and the 2008 MIT Graduate Student Council Teaching Award.

Layzer supervised or read dozens of master's and PhD theses in DUSP, and taught a wide range of courses, including the popular course 11.002J (Making Public Policy), as well as others on science and politics, energy politics, ecosystem management, and food systems.

Outside the classroom, Layzer was known to friends (and competitors) as a world-class ultimate frisbee player. The Boston-based club team she played for, known as "Lady Godiva," won the U.S. national championship seven times between 1995 and 2002, and won the world championship in 1998.

Layzer is survived by her parents, David and Jean Layzer, and by her four siblings: Carolyn, Emily, Nicholas, and Jonathan.

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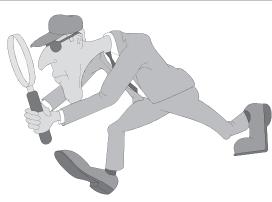
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22 THE TECH FRIDAY, JUNE 5, 2015

A year of many firsts for MIT sports

From football to pole vaults, MIT teams score big this season

By Souparno Ghosh

From the football team scoring a last-minute field goal on the way to their first ever NCAA playoff victory, to the women's lacrosse team erasing a five goal deficit in the last twelve minutes and clinching their maiden New England Women's and Men's Athletic Conference (NEWMAC) Championship, to breaking a pole vault record at the New England Division III Track and Field Championship, MIT student athletes scaled new heights (pun intended) in the 2014-15 year. While some usual suspects continued their domination — like the men's tennis team winning their 17th consecutive NEWMAC title — there were a number of new frontiers reached this season. Here we take a look back at some of the 'firsts' for MIT

Men's football goes unbeaten in regular season and clinches first NCAA playoff win

The men's football team went 9-0 with 7-0 in the New England Football Conference (NEFC) to record their first ever unbeaten season in program history. As

many as fifty student athletes from MIT were named to the NEFC All



Academic The Engineers were not quite done yet as they pulled off a thrilling victory in their first ever NCAA playoff appearance

against Husson University. Matt Iovino '17 first blocked an extra point attempt to keep Husson's lead to just three points. Tucker Cheyne '17 then converted a 38 yard field goal to take the game to extra time, in which OB Peter Williams '15 hit Seve Esparrago '16 for a game winning touchdown. Elliot Tobin '17 claimed an honorable mention All-American from DIII football, in addition to being named NEFC Offensive Lineman of the Year.

Women's lacrosse clinchfirst ever NEWMAC Championship

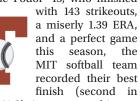
The women's lacrosse team overcame old nemesis Springfield



college by hammering in six goals in the last twelve minutes of regular season to clinch their first ever NEWMAC crown and consequently a debut at the NCAA playoff. The Engineers dominated Regis College in their maiden NCAA playoff appearance, recording a resounding 19-5 victory. Leading the charge for the Engineers were NEWMAC Rookie of the Year Emily Young '18, who broke the program record for both points and goals scored, and Kira Schott '16, who was named to Intercollegiate Women's Lacrosse Association (IWLCA) all-region first team. Hannah Levy '17 and regular season's Most Outstanding Player of the Tournament Christine Jiang '16 also made key contributions to one historic

Softball team reaches NCAA **Regional Championship Finals**

Riding on some nasty pitching by Ellie Fodor '15, who finished



NEWMAC) in program history, notching up a record 29 victories. The Cardinal and Gray also recorded impressive victories over Elms College and Wellesley College in the NCAA Regionals before falling to eventual champions, Tufts University. The Engineers were powered by Tori Jensen '16 and Amanda Lee '18, both of whom notched 35 RBIs, with the latter leading the team with 47 hits and a .395 average.

Women's tennis reaches NCAA Elite 8

The women's tennis team made it to the NCAA Elite 8 for the first time in program



history when they overcame the more heralded Washington and Lee University. MIT closed out the regular sea-

son with a 15-5 record and made its third consecutive appearance in the Division III NCAA Championship. During the course of the season, Michelle Dutt '15 notched her 100th career win. The MIT women's tennis team was also awarded the Intercollegiate Tennis Association (ITA) Sportsmanship Award for the month of May.

Track and field team shines at multiple events

The MIT women's cross coun-

try and track and field programs were awarded the Deb Vercau-



teren Program of the Year Award by the U.S. Track & Field and Cross Country Coaches Association (USTFCCCA). The team finished

second at the Cross Country Championship and fourth and fifth at the Indoor and Outdoor Track and Field Championships respectively. Coach Halston Taylor was deservedly named Coach of the Year. Cimran Virdi '16 capped a sensational season with her first outdoor pole vault title at the NCAA Championship to add to her tally of two indoor titles. She also jumped an NCAA DIII record of 14-0 in the New England Division III Championship. Virdi was rightfully named the Field Athlete of the Year by the USTFCCCA. Joining her on the USTFCCCA honoree list was Track Athlete of the Year, Maryann Gong '16. Gong won the 3000m at the Indoor National meet, along with first place finishes in the 1500m in the NEWMAC Championship and the 5000m at the New England Division III meet.



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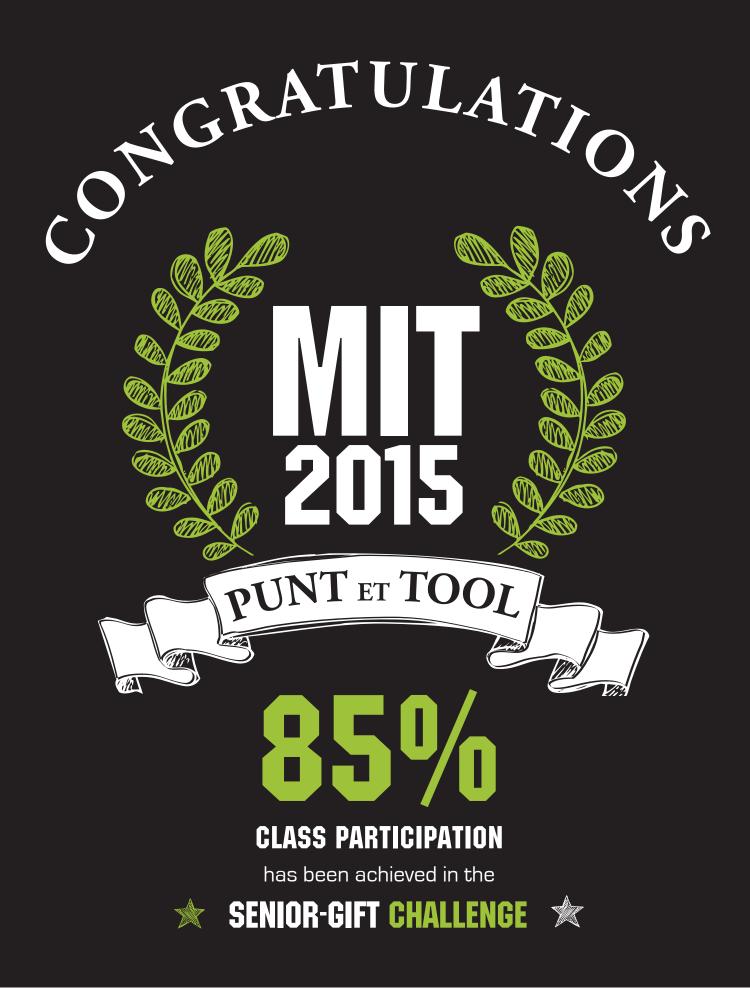
Josh is connecting "hidden" vehicle data with a cloud-based platform to create powerful and transformative applications

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